

Proposed Addition to Appendix 2

These proposed paragraphs would precede the discussion of the test method in Appendix 2.

A2.0 Importance of Larval Testing

It may be argued that the loss of a newly emerged bee (day 1) or a capped larva is of greater proportional effect on the colony than the loss of a mature forager. This is because a mature forager is nearing the end of its lifespan and has already made a substantial contribution to the viability of the hive and “paid back” the investment the colony made in rearing it, whereas a capped larva or newly emerged adult has not yet paid back this investment by the colony. Further, larvae that die later in development (*e.g.*, at day 7 versus day 1) have consumed more of the colony energy, as input into its development, but have not provided any input back into the colony since they have not become part of the work force of the colony.

Besides the energetic cost to the colony from losing either larvae, pupae or newly emerged bees, there may also be an impact on colony strength. Removing half of larvae, for example, may result in there not being enough workers present to build a strong colony, make honey, and survive the winter. Investigating how the impact of removing varying amounts of larvae translates to colony increase/decreases may be an appropriate exercise for modeling (see Chapter 11).

A2.1 Proposed Elements for a Larval Study

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